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09/541,390	03/31/2000	Lynice S. Spangler	10559/153001/P7987	3458

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EXAMINER	
WANG, LIANG CHE A	

ART UNIT	PAPER NUMBER
2155	18

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/541,390	Applicant(s) SPANGLER ET AL.
	Examiner Liang-che Alex Wang	Art Unit 2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-22 have been examined.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3, 6-8, 10, 13-15, 17, 20, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aras et al., US Patent Number 5,884,037, hereinafter Aras, in view of Ahn, US Patent Number 5,745,642, hereinafter Ahn.

4. Referring to claim 1, Aras has taught an method comprising:

determining whether information scheduled to be broadcast digitally(Figure 14, step 1403) is utilizing all bandwidth previously allocated to broadcasting the information (Figure 14, steps 1405-1407); and if not, broadcasting additional information using an unused portion of the previously allocated bandwidth. (Col 2 lines 20-64, the system determined the bandwidth is not fully utilizing (only used 5Mp/s out of total 10Mp/s bandwidth) so the system is able to allocate the additional bandwidth (2Mp/s) using the unused portion of the previously allocated bandwidth.)

Aras has not clearly taught the determination is made in real time whether information guaranteed a fixed amount of bandwidth for a fixed length of time broadcast digitally is actually utilizing all bandwidth.

However, Ahn has taught determining in real time whether information guaranteed a fixed amount of bandwidth for a fixed length of time broadcast digitally is actually utilizing all bandwidth (Col 10 lines 45-56, abstract, Col 3 lines 34-46, and figure 2, the action of interleaving is utilizing the unused portion of bandwidth.)

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to modify the teaching of Aras such that to make the determination in real time to insure bandwidth resources are actually fully utilized, because both of Aras and Ahn have taught inventions relating to utilizing network resources by enhance the transfer rate of the system.

A person with ordinary skill in the art would have been motivated to make the modification to Aras, because as a result of the combination, the communication rate of the network can be more fully utilized as taught by Ahn (Col 3 lines 38-40.)

5. Referring to claim 3, Aras as modified has taught an invention as described in claim 1, Aras has further taught the method of claim 1 including determining in real time whether additional information can be broadcast over a portion of the previously allocated bandwidth that is actually unused. (Figure 14, block 1403 determines if the requested bandwidth is less than available bandwidth, and if yes then allow the connection and broadcast the information, if not then deny the request.)

6. Referring to claim 6, Aras as modified has taught an invention as described in claim 1, Aras has further taught the method of claim 1 including determining in real time whether there is any unallocated bandwidth; and, if there is unallocated bandwidth with respect to a particular timeframe, broadcasting supplementary information to occupy at least a

portion of the unallocated bandwidth during the particular timeframe. (Col 10 lines 48-57, the system is able to know if the bandwidth will be available at time t_f, and allow this time frame (times between t_fs could be considered as time frames) to be occupied by another client request.)

7. Referring to claim 7, Aras as modified has taught an invention as described in claim 6, Aras has further taught the method of claim 1 including determining in advance of the particular timeframe whether the supplementary information can be broadcast over the unallocated bandwidth. (Figure 17, and Col 10 lines 48-57, connection agent informs the client that the bandwidth is available at t_f. If the connection agent is able to inform the client when the bandwidth is available, the system is able to determine in advance when the bandwidth will be available so the supplementary information can be broadcast over the available (unallocated) bandwidth.)

8. Referring to claim 8, Aras as modified has taught a digital communication system (see title) comprising:

an automated management system (abstract line 1, bandwidth management system is an automated management system,) that controls scheduling of digital broadcasts (Col 10 lines 62-64, the system controls the model to schedule a application at a appropriate time to broadcast.) and is configured to determine whether information scheduled to be broadcast (Col 2 lines 26-27, 5 Mp/s is information to be broadcasted) utilizes all bandwidth previously allocated to broadcast the information (10 Mp/s is the total bandwidth, and 5 Mp/s is previous allocated (conformed) to broadcast the information,) and if not (Col 2 lines 36-48), to broadcast additional information (2 Mp/s)

using an unused portion of the previously allocated bandwidth (using 2 Mp/s out of the unused 5 Mp/s bandwidth.)

Aras has not clearly taught the determination is made in real time whether information guaranteed a fixed amount of bandwidth for a fixed length of time broadcast digitally is actually utilizing all bandwidth.

However, Ahn has taught determining in real time whether information guaranteed a fixed amount of bandwidth for a fixed length of time broadcast digitally is actually utilizing all bandwidth (abstract, Col 3 lines 34-46, and figure 2.)

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to modify the teaching of Aras such that to make the determination in real time to insure bandwidth resources are actually fully utilized, because both of Aras and Ahn have taught inventions relating to utilizing network resources by enhance the transfer rate of the system.

A person with ordinary skill in the art would have been motivated to make the modification to Aras, because as a result of the combination, the communication rate of the network can be more fully utilized as taught by Ahn (Col 3 lines 38-40.)

9. Referring to claims 10,13-14, Aras as modified has taught an invention as described in claim 8, and claims 10,13-14 encompass the same scope of the invention as that of the claims 3, 6-7. Therefore, the claims 10,13-14 are rejected for the same reason as the claims 3, 6-7.

10. Referring to claims 15, 17, and 20, claims 15, 17, and 20 encompass the same scope of the invention as that of the claims 1, 3, and 6. Therefore, the claims 15, 17, and 20 are rejected for the same reason as the claims 1, 3 and 6.

11. Referring to claim 21, Aras has taught a digital communication system comprising:

a bandwidth pipe operable to transport digital information; (see abstract)

a monitor to determine bandwidth usage in the bandwidth pipe; (Figure 14, block 1403 provides a monitor to determine the usage in the bandwidth pipe, also see Figure 6.)

a system manager to broadcast additional information if there is available bandwidth in the bandwidth pipe, using an unused portion of the previously allocated bandwidth. (See Figure 14)

Aras has not clearly taught the determination is made in real time whether information guaranteed a fixed amount of bandwidth for a fixed length of time broadcast digitally is actually utilizing all bandwidth.

However, Ahn has taught determining in real time whether information guaranteed a fixed amount of bandwidth for a fixed length of time broadcast digitally is actually utilizing all bandwidth, and item 252 in figure 2 is viewed as the guaranteed content and items 254 is viewed as the opportunistic content (abstract, Col 3 lines 34-46, and figure 2.)

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to modify the teaching of Aras such that to make the determination in real time to insure bandwidth resources are actually fully utilized,

because both of Aras and Ahn have taught inventions relating to utilizing network resources by enhance the transfer rate of the system.

A person with ordinary skill in the art would have been motivated to make the modification to Aras, because as a result of the combination, the communication rate of the network can be more fully utilized as taught by Ahn (Col 3 lines 38-40.)

12. Claims 2, 4, 5, 9-12, 16, 18, 19, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aras in view of Ahn and in further views of Yin et al., US Patent Number 6,442,138, hereinafter Yin.

13. Referring to claim 2, Aras has taught an invention as described in claim 1, Aras has further taught the method of claim 1 further comprising limiting the amount of additional information to a preset limit of bandwidth. (Col 9, lines 53-61)

Aras has not explicitly taught the bandwidth is indicated in percentage.

However, Yin has taught the use of percentage to indicate the total bandwidth allocated, and the total bandwidth available (Col 6 lines 38-44.)

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to modify the teaching of Aras such that to use a preset percentage pf the total available bandwidth to be his bandwidth limitation, because both Aras and Yin has taught invention related to bandwidth allocations.

A person with ordinary skill in the art would have been motivated to make the modification to Aras, because percentage is easy for people to read and understand.

14. Referring to claim 4, Aras as modified has taught an invention as described in claim 2, Aras has further taught wherein said broadcasting the portion of the additional information is stopped when the preset percentage is reached, (Col 9, lines 57-61)

15. Referring to claim 5, Aras as modified has taught an invention as described in claim 6, Aras has further taught wherein said broadcasting the portion of the additional information to be stopped is selected based upon at least one of content provider, bandwidth range and sequence of content provision. (Col 9, lines 57-61, if no bandwidth is available, the connection will not be setup for broadcasting, and content provider (application server) will not be able to broadcast information since there is not enough bandwidth available for broadcasting.)

16. Referring to claims 9, 11 and 12, Aras as modified has taught an invention as described in claim 8. And claims 9, 11 and 12 encompass the same scope of the invention as that of the claims 2, 4 and 5. Therefore, the claims 9, 11 and 12 are rejected for the same reason as the claims 2, 4 and 5.

17. Referring to claims 16, 18 and 19, Aras as modified has taught an invention as described in claim 15. And claims 16, 18 and 19 encompass the same scope of the invention as that of the claims 2, 4 and 5. Therefore, the claims 16, 18 and 19 are rejected for the same reason as the claims 2, 4 and 5.

18. Referring to claim 22, Aras as modified has taught an invention as described in claim 21. And claim 22 encompasses the same scope of the invention as that of the claim 2. Therefore, claim 22 are rejected for the same reason as the claim 2.

Response to Arguments

19. Applicant's arguments with respect to claims 1-22, have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

21. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liang-che Alex Wang whose telephone number is (703) 305-8159. The examiner can normally be reached on Monday thru Friday, 8:30 am to 5:00 pm.

23. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T Alam can be reached on (703)308-6662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Liang-che Alex Wang LW
May 4th, 2004

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER